Users' Perception of Online Privacy and Security in Croatia – A Survey

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Abstract

This paper aims to obtain insight into users' perception of security of their personal information on the Internet by conducting an opinion survey. A significant increase in Internet usage in the last 5 years in Croatia was not accompanied by the corresponding level of increase in digital competencies (Croatia is still below the European Union's average). This research aims to answer the question of how much the average user in Croatia knows about the issues of user security and privacy on the Internet and mainly on social networks, with a somewhat greater focus on the younger population. The main contributions of this paper are: a) a survey on the security of personal data on the Internet (mainly social networks), b) processed data and data visualization, c) insight into what Internet users in Croatia know about Internet security and how they perceive their online privacy and d) insight into the willingness of users to further inform themselves on data protection.

Keywords: survey, data security, data privacy, Internet, social networks

1. Introduction

Today, more than ever, due to the speed of development of the Internet and communication technology, the lives of young people, as well as of the elderly, are gradually shifting to the imaginary space of the virtual world, as the research from Sathish Kumar and Patel (2014) confirms. People can now talk, work and shop online, and it is becoming increasingly popular to have pets and plants that are virtual. With the everyday use of mobile devices such as smartphones and tablets, the frequency with which people use the Internet has grown exponentially.

The motivation for this research was the fact that Croatia was below the European Union's (EU) average in percentage of all households with Internet access in 2013, according to data from Eurostat Households (2019), but by 2018, that percentage has slightly risen above EU average.

For the purpose of this paper, an Internet user will be defined as is in Eurostat Internet (2019): "An Internet user is a person (aged 16-74 years) making use of the Internet in whatever way: whether at home, at work, or anywhere else; whether for private or professional purposes; regardless of the device (desktop computer, laptop, netbook or tablet, smartphone, games console or e-book reader) or type of connection being used."

According to Eurostat Internet (2019), there is still a difference in Internet usage in some Croatian regions: fewer than 70% of adults from continental Croatia (Central, Northern and Eastern Croatia) made daily use of the Internet in 2018, and more than 70% of them in coastal Croatia (Istria, Northern Adriatic, Dalmatia). Also, in 2018, 50-60% of people in Croatia participated in social networks. However, also according to Eurostat Privacy (2019), this level of increase in the Internet usage was not accompanied by the same level of increase in digital competencies in Croatia. As expected, there was a considerable digital skill divide in Croatia (25 percentage points, above the EU average) between adults living in cities and those living in rural areas. The overall level of digital skills in the EU was lowest among adults who were living in rural areas (49% had basic skills), rising to 57% for adults living in towns and suburbs, and peaking at 63% for adults living in cities. For Croatia it was 30% for adults who were living in rural areas, 40% for adults living in towns and suburbs and 55% for adults living in cities. The gap between adults living in

rural and city areas for the share of adults demonstrating an above basic level of skill when measuring software and communication skills was, on average, 12 percentage points in the EU, but it reached 21 percentage points in Croatia. Also, in 2018, 12% of adults living in cities across the EU sought to improve their digital skills by undergoing free online training or self-study (11% in Croatia), 9% of adults living in towns and suburbs (6% in Croatia) and 7% of adults in rural areas did so (4% in Croatia).

One of the most popular Internet activities nowadays is to browse the Internet (e.g. Google search, news and lifestyle websites, etc.) and participate in social networks (e.g. using Instagram, Facebook or Twitter). Anyone can agree that people spend too much time online, using social networks, buying new products or simply watching videos on popular websites such as YouTube, Daily Motion, Vimeo and others.

But how safe is the information that is entered into the various forms on web pages and how much does the average user in Croatia know about it? This is the research question of this paper.

Data from the Croatian Bureau of Statistics (2018) shows that in 2017 in Croatia 83% of people with higher education were regular Internet users, 70% of people with secondary education were regular Internet users and 20% of people with basic education were regular Internet users. In a population of Croatia, 74% of all males were regular Internet users and 60% of all females. Also, according to Eurostat Privacy (2019), 35% of Croatian Internet users did not provide personal information over the Internet, a percentage larger than the EU's average (27%). 78% of Croatian Internet users had an awareness that cookies could be used to trace their online activities, but only 30% ever changed settings in their Internet browser to prevent or limit the number of cookies.

To find out the answer to the research question a survey was conducted to obtain insight into what Internet users in Croatia know about Internet security and how they perceive their online privacy. The paper is organized as follows: after the introduction, some related work is shown, then the research methodology is described, the results are discussed, and some conclusions are given.

2. Related Work

Many research papers were written about personal data security on the Internet and many surveys have been conducted over the years regarding this issue, such as: Cranor, Reagle and Ackerman (2000), Sheehan (2002), Budak, Anić and Rajh (2011), Wu, Huang, Yen et al. (2012), Greenemeier (2013), Bartsch and Dienlin (2016), Chen, Beaudoin and Hong (2017), Kayes and Iamnitchi (2017), Marreiros, Tonin, Vlassopoulos et al. (2017), Presthus and Vatne (2019), RAS (2019). Some surveys that the authors find interesting for the scope of this work are briefly described below.

In Ipsos (2019), CIGI-Ipsos Global conducted an Internet Security and Trust Survey in 2019 that was answered by more than 25,000 Internet users from America, Europe and Africa. 53% of people said they were more concerned about their privacy on the Internet than last year, 49% of people decided to put less personal information on the Internet and 75% agreed that social networks are the culprit why they no longer trust the Internet and how their data and their security is handled.

Tirumala, Sarrafzadeh and Pang (2016) conducted a survey about Internet use, cybersecurity and awareness among primary and secondary school students and undergraduate students. It had 2214 respondents. The survey results showed that only 19% of primary school students were aware of their online safety, while the number for high school students was 32% and 41% for undergraduate students.

Bartsch and Dienlin (2016) discuss factors that potentially contribute to and result from online privacy literacy. They found that people who spend more time on Facebook and who have changed their privacy settings more frequently reported to have more online privacy literacy.

Chen, Beaudoin and Hong (2017) researched factors that positively predicted being an Internet scam victim - which, subsequently, predicted increased online privacy concerns and elevated privacy protection behaviors.

Kayes and Iamnitchi (2017) provided an overview of the privacy and security issues that have emerged so far on online social networks (OSN). They introduced a taxonomy of privacy and security attacks in OSNs, described existing solutions to mitigate those attacks, and outlined challenges still to overcome.

Presthus and Vatne (2019) investigated how Facebook users perceive information privacy against the benefits of being a member. Results showed that the largest benefit of being on Facebook is maintaining contact with friends, and the largest concern is the misuse of identity, not necessarily by Facebook but by third parties.

Anic, Škare and Milaković (2019) tried to identify influential factors that affect online privacy concerns and their consequences for consumer behavior in Croatia. The results indicated that third-party seal assurance, previous online experience, time spent online, and gender significantly affect privacy concerns, while consumer attitudes towards relationship marketing and income were not shown to have a significant impact.

Škrinjarić, Budak and Rajh (2019) analyzed perceptions of the existing legislation and government effort in Croatia to protect online privacy in the context of sociodemographic characteristics of respondents, computer anxiety, individual desire to maintain control of personal information online, as well as intensity and diversity of online activities. The results indicated that perceived effectiveness of government regulation reduces online privacy concern, whereas computer anxiety has a major positive impact on online privacy concern.

The issue of online privacy and security and users' perception towards these issues is present in the Croatian academic community for some time. In the light of new findings from Eurostat (2019) and the Croatian Bureau of Statistics (2018), this paper will try to provide some current insight into users' perception of the issues mentioned above. The authors suggest this subject could be repeated continuously due to the rapid development and change in both technology and its users.

3. Research Methodology

The survey was conducted in the form of an anonymous online questionnaire. It was shared on the social networks Facebook (various private and public groups) and Reddit (subreddit - r/croatia), as its target group was people active on social networks. The questionnaire was available in the period of November and December 2019. It targeted people of different age, education background and gender, all residing in Croatia, with a somewhat greater focus on the younger population. Why the greater focus on the younger population? According to Eurostat Internet (2019), the propensity to make use of social

networks is closely linked to age, with a much higher proportion of younger people using social networks on a regular basis. Younger people are also more prone to adopt new apps/services as together with their peers they seek alternative ways of exchanging text, images, sound, video and other information. Also according to Eurostat Internet (2019), the use of social networks varied considerably between age groups: close to 9 out of 10 people aged 16-24 years participated in social networks, compared with less than one in five people aged 65-74 years. In total, there were 311 respondents.

The survey itself was created using Google Forms and consisted of 16 questions, 3 of which are demographic multiple-choice questions:

- Gender: Male, Female, I do not want to express myself
- Age: less than 18, 18 to 25, 26 to 35, 36 to 45, 46 to 55, 56 and older
- Finished education: basic education, secondary education, university degree, college degree, master's degree, doctor of science

The other 12 questions were related to the topic of personal data security on the Internet. Six of those were statements to which respondents had the ability to choose from 1 to 5, where 1 means that the person does not agree at all, and 5 that he or she agrees completely. These statements were:

- I am concerned about data security on the Internet
- I would love to learn how to better protect my information online
- I feel safe sharing my personal information on the Internet
- I worry that my information will be used to create a fake profile on social networks
- I believe that the government is spying on me over the Internet
- I do not mind that my information is being collected to serve more relevant advertisements

The remaining 6 questions asked in the survey and their possible answers were:

- What devices do you mostly use to access the Internet? – multiple-choice question (smartphone, desktop or laptop computer, tablet)

- Do you use information that could identify you (such as real name) as a username? - yes or no answer

- Have you exchanged sensitive personal information or documents over the Internet? - yes or no answer

- What information did you exchange? – multiple-choice question with an open option to enter a new answer independently (offered answers: bank account information (credit card number, PIN, ...), passport pictures, pictures of your driving license or ID card, passwords of your profiles on the Internet, and other - possibility of additional answer)

- I experienced fraud online, because I gave my information to people I do not know - choose the answer yes, no or I was never in this situation

- How are you trying to protect your information on the Internet? - choose an answer or enter a new answer independently (offered answers: complicated and long password on my profiles, all my profiles are private, I do not connect to public Internet networks (example: Wi-Fi in a cafe), I do not put sensitive personal information on the Internet, I do not open emails from people who do not know me anwd others - possibility of additional reply)

At the end of the survey, the possibility of an additional comment regarding the security of data on the Internet was added, in which a short paragraph could be written if the respondent wanted to say something further about the topic.

4. Results

The survey results were both collected and semi-automatically processed through Google Forms. Closed-type questions were processed automatically by the system, but the open-ended ones were processed manually, using Microsoft Excel and Microsoft Word. The results are shown in percentages (%).

Of 311 participants, 61.4% were female and 37.9% were male, while two chose not to express themselves. The majority of respondents were in the age group of 18 to 25 (50.5%), followed by the age group of 26 to 35 (26.7%), 11.9% of respondents were 36 to 45, 5.5% were 46 to 55, 3.2% were less than 18 years old and 2.3% were 56 and older (Figure 1).

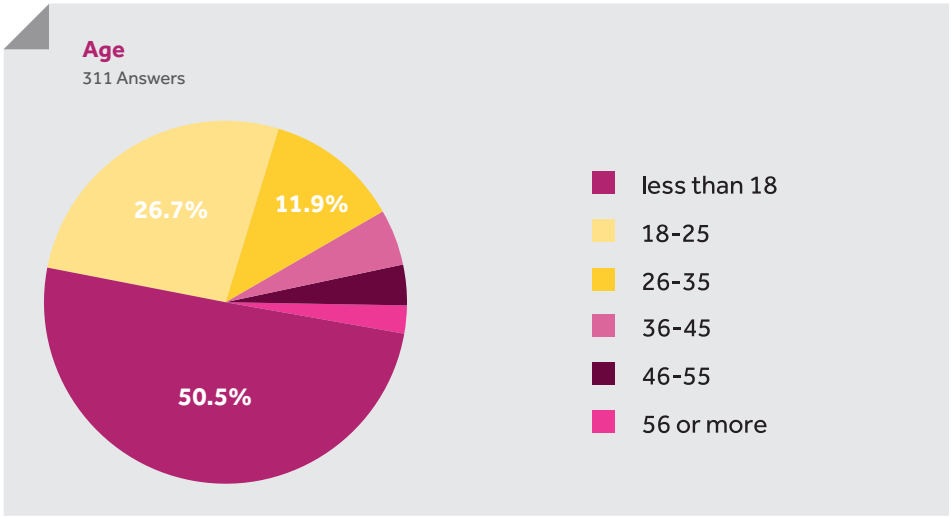

Figure 1. Age of respondents (N=311)

As for the education level of the respondents (Figure 2), 42.1% of them completed their secondary education, 25.7% have a university degree, 19% have a college degree, 7.7% have a master's degree, 4.8% have only basic education, and 0.6% (2 people) have PhDs.

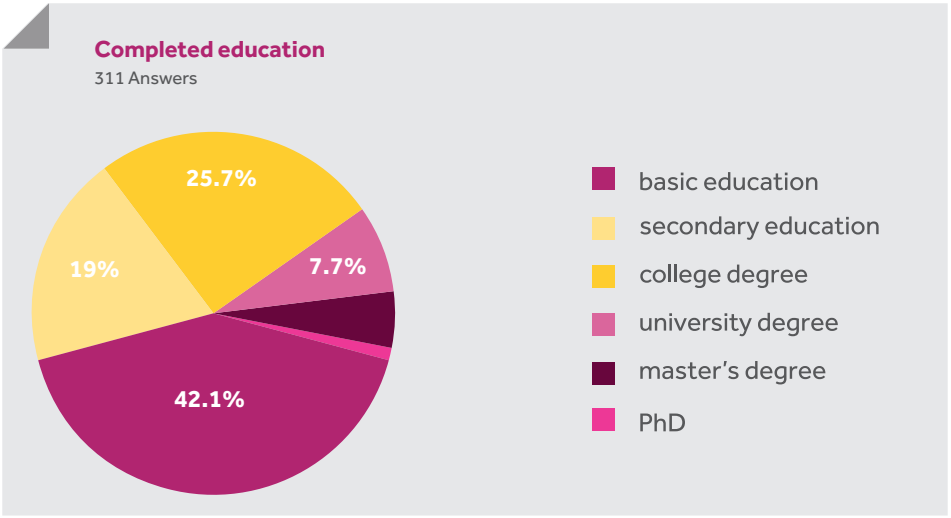

Figure 2. Educational level of respondents (N=311)

When asked which device they mostly use to access the Internet, respondents mostly answered that they use a smartphone. However, the respondents could choose multiple answers on this question, so for example: a respondent can tick the answers smartphone and tablet if he/she uses both devices. With that in mind 98.1% of respondents answered smartphone, 80.1% answered desktop or laptop computer, and only 16.7% responded using a tablet (Figure 3).

Looking at ages 18-25: 71.97% respondents answered that they use their desktop or laptop computer and smartphone and not even one respondent uses a tablet and a smartphone together. As ages increase things change, respondents who are in the 36-45 age group do not use a desktop or laptop computer on its own and prefer a tablet more (35.14% use it with or without a smartphone), or just a smartphone (18.92%).

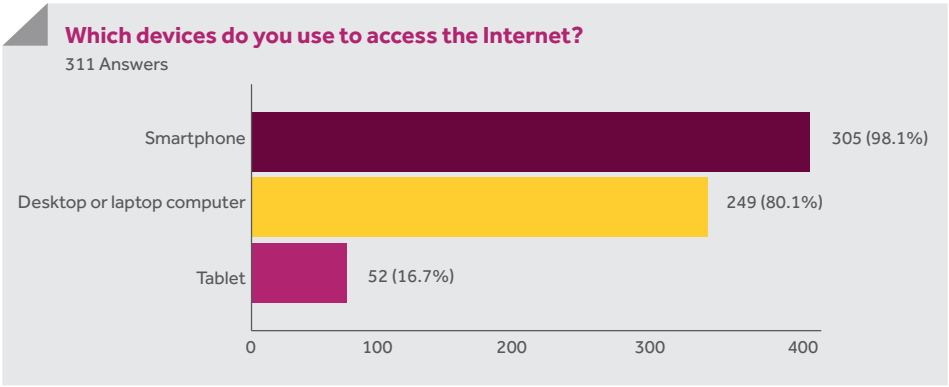

Figure 3. The percentage of Internet access devices which respondents use (N=311)

As for respondents' concern about their security on the Internet, 52.1% (4+5) of them answered that they agree or completely agree with the statement (i.e. they are worried about their data security), 16.7% (1+2) disagree or completely disagree (i.e. they are not worried) and as many as 31.2% do not know or do not have an opinion (Figure 4).

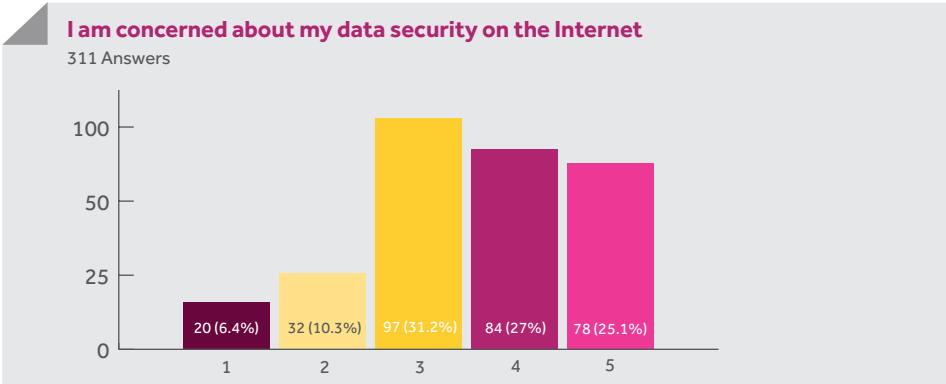

Figure 4. Respondents' concerns about Internet data security (N=311)

Another statement that a respondent may or may not agree with is whether they would be more comfortable learning how to protect their information on the Internet. On this issue, 67.5% of respondents agreed or completely agreed (Figure 5). Respondents' willingness to learn how to better protect themselves does not change depending on which age group they are talking about, i.e. all age groups are individually interested.

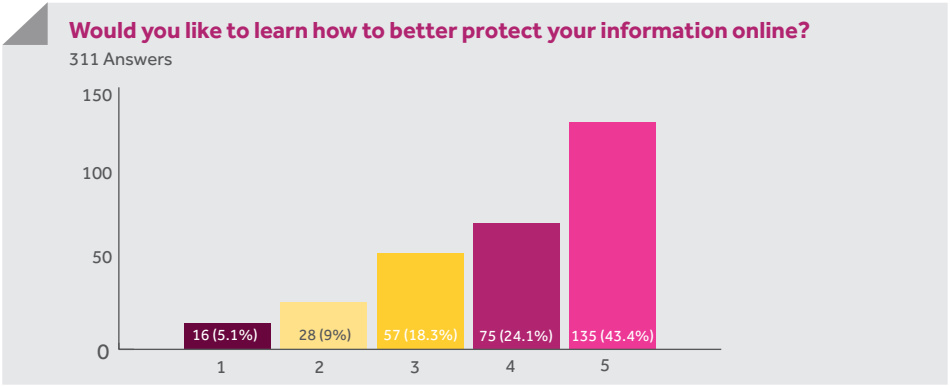

Figure 5. Respondents' will to learn how to better protect their information on the Internet (N=311)

As for the statement "I feel safe in sharing my personal information on the Internet", 53.7% of the respondents disagreed or completely disagreed, while only 16.8% agreed or completely agreed (Figure 6).

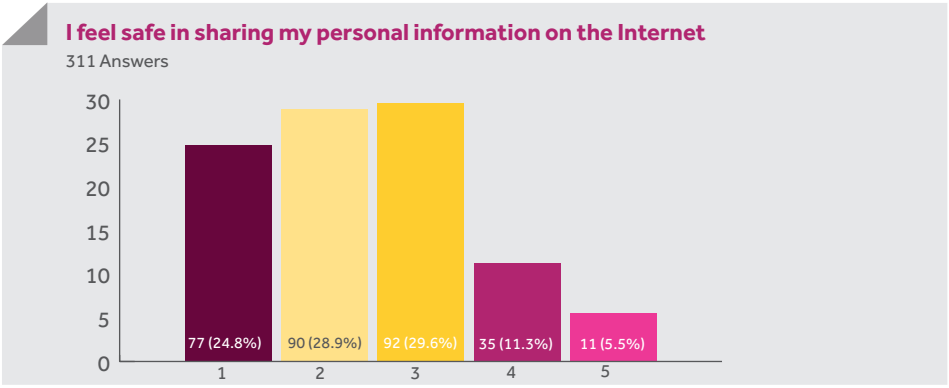

Figure 6. Sense of security in sharing personal information on the Internet (N=311)

As for the statement "I worry that my data will be used to create a false profile on social networks", the results here are similarly distributed, somewhat more in favor of disagreement. 20% of respondents did not agree with the statement at all, while 13.8% of respondents completely agreed (Figure 7).

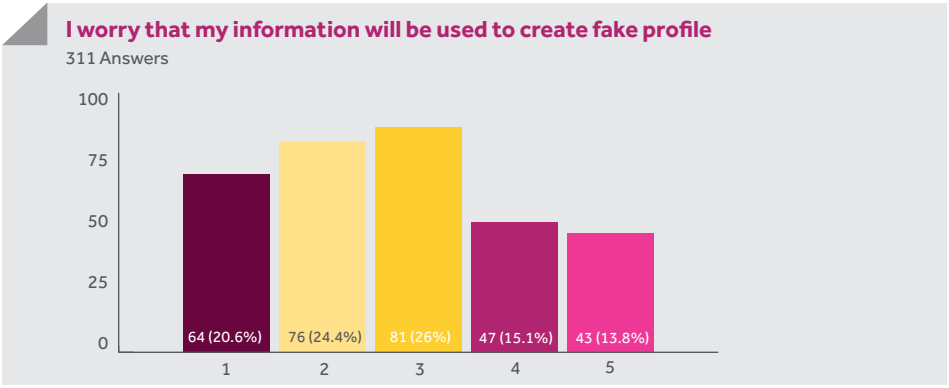

Figure 7. The worry that user data will be used to create a fake profile (N=311)

The next statement asked the respondent whether he or she believes that the government is spying on the Internet (example: social networks), in which the respondents were also almost evenly divided (20% on each of 1 to 5 choices). Figure 8 shows a bar graph for this statement.

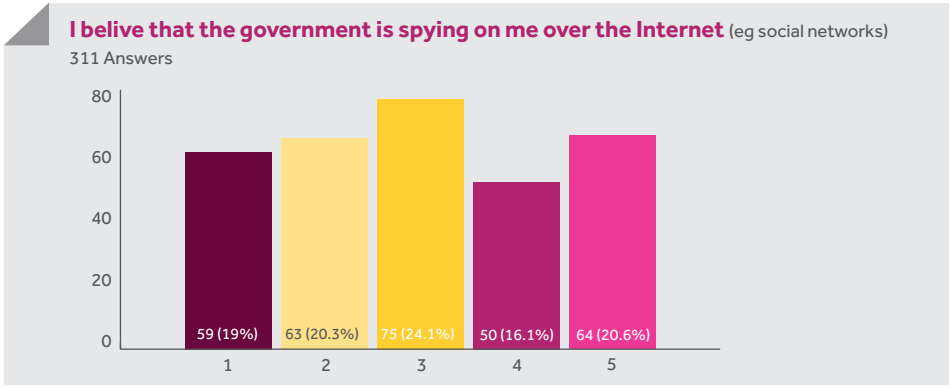

Figure 8. Believing that the government is spying on citizens over the Internet (N=311)

The last of the statements in the set in which a respondent can answer from 1 to 5 was "I don't mind my information being collected to show more relevant advertisements". 41.2% of respondents said that they fully disagree with the statement and only 10% said that they fully agree (Figure 9).

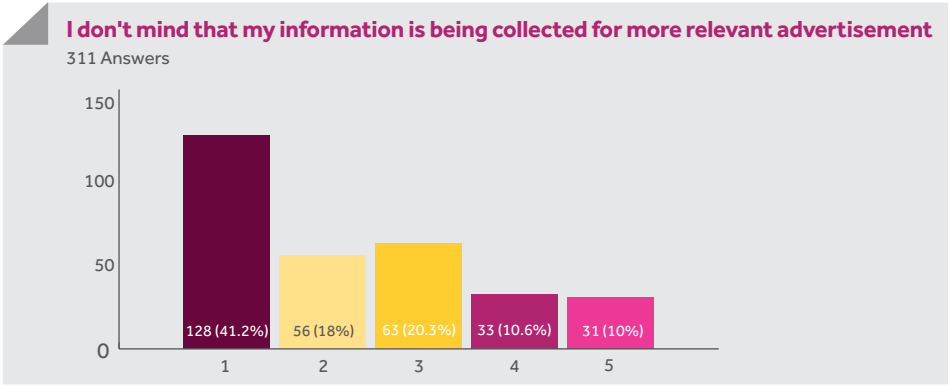

Figure 9. Collecting information to display more relevant advertisements (N=311)

58.5% of respondents admitted to using information that could identify them (such as real name) as their username, while 41.5% of them said they did not use such information as their username. Here, looking only at female respondents, the percentages change, with 73.82% of female respondents using identifiable information and only 26.18% not using it. In contrast, 65.25% of male respondents said they did not use identifiable information and only 34.75% using it.

Also, the question was asked about whether the person exchanged sensitive personal information or documents over the Internet. 52.1% answered no, while 47.9% said they did. By observing only the male respondents, the percentages change: 55.08% of male respondents answered that they exchanged sensitive personal information and 44.92% did not.

Observing different ages, from 18 to 45, respondents answered the same (50-50 percentage) on whether they exchanged sensitive personal information, but 70.95% of people who are from 46 to 55 answered that they did not exchange sensitive personal information and only 29.41% said they did. With that in mind, a similar percentage was obtained with the respondents that are less than 18 years old (66.67% answered that they did not and 33.33% answered they did).

Observing the results according to completed education a different story is shown. Respondents who have basic education answered 66.67% no, but respondent who had a master's degree only answered no 41.67% of the time. Further, the only 2 PhD respondents both answered that they had exchanged sensitive personal information on the Internet.

The following question builds on the previous one. In cases when the user exchanged information, the question is what information. The respondents could choose multiple answers to this question. 42.7% of the respondents said that they exchanged pictures of a driver's license or ID, 40.2% of the respondents said that they exchanged bank account information, passport pictures were exchanged by 14.1% of respondents and 9% of respondents exchanged profile passwords. However, 38.9% claimed that they did not exchange any personal information. In the open answer option, respondents added that they exchanged their address of residence and workplace, inappropriate private photos, contracts, pictures of their appearance and others (Figure 10).

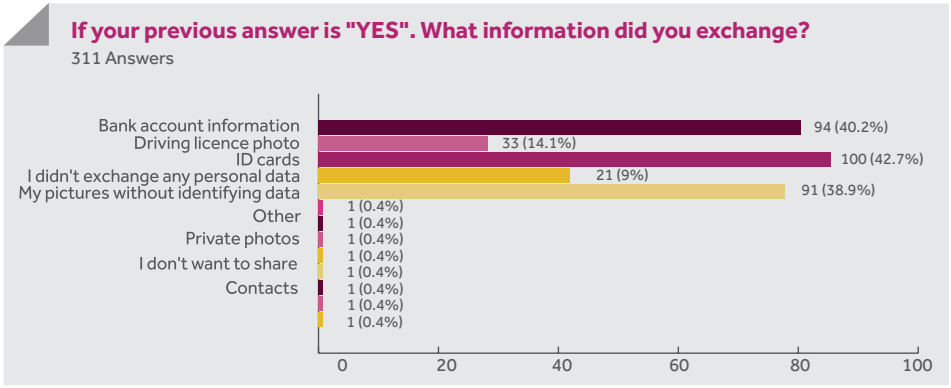

Figure 10. Type of personal information (N=234)

The combination of types of personal information respondents selected is shown in Figure 11. It can be seen that 13.67% of the respondents exchanged both bank account information and their ID cards, 12.82% of the respondents exchanged driving license photos and ID cards, 9.8% answered that they only exchanged bank account information and 5.5% respondents exchanged bank account information, passport photos and ID cards.

Combinations of responses

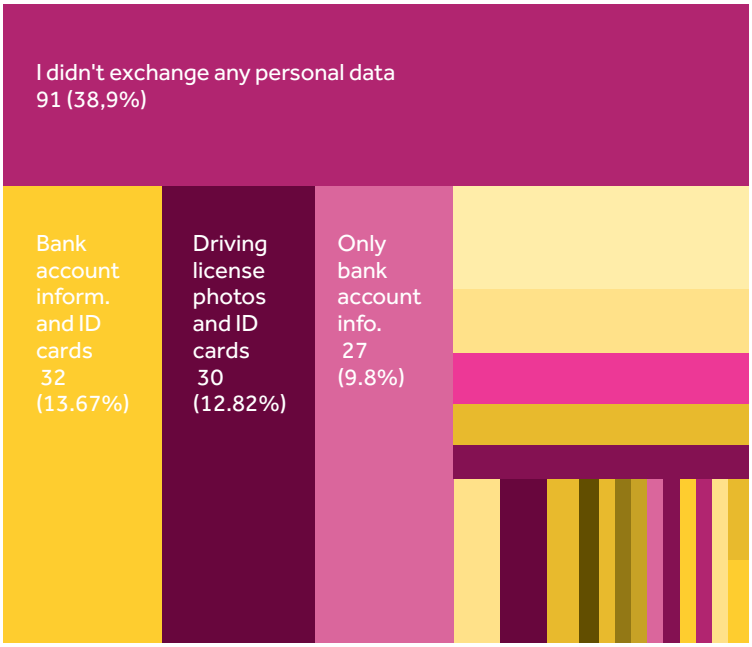

Figure 11. Combinations of responses of types of personal information

When asked if they experienced fraud online because they gave their information to people they do not know, 57.2% were not in such a situation, 4.8% were and the rest did not want to say. When asked how are they trying to protect their information on the Internet (to this question, the respondents could also select more than one answer), 68.2% of respondents said they did not put sensitive personal information on the Internet, 55.3% said they had a complicated and long password for their profiles, 50.8% replied that all their profiles were private, 41.5% indicated that they did not respond to messages from people they did not know, 13.8% of the respondents did not connect to public networks, and only 7.7% did nothing about it. Other answers the respondents wrote in an open section were: using VPN and sender encryption, not using social networks, 2FA (Two-Factor Authentication), triple authentication when accessing accounts, not visiting unsafe sites, and changing privacy settings. Details are shown in Figure 12.

Looking at the results according to completed education of respondents, 26.67 % of respondents with completed basic education answered that they do not put sensitive information on the Internet, so they do not think they need protection and 21% answered that they have an account that is not public. 8.47% of respondents with a college degree answered that they do not do anything about protecting their information on the Internet. 25% of respondents with a master's degree answered that their account is private and 8.33% said that they do nothing about it and only 5.41% of respondents with a university degree said that they do not do anything about their privacy.

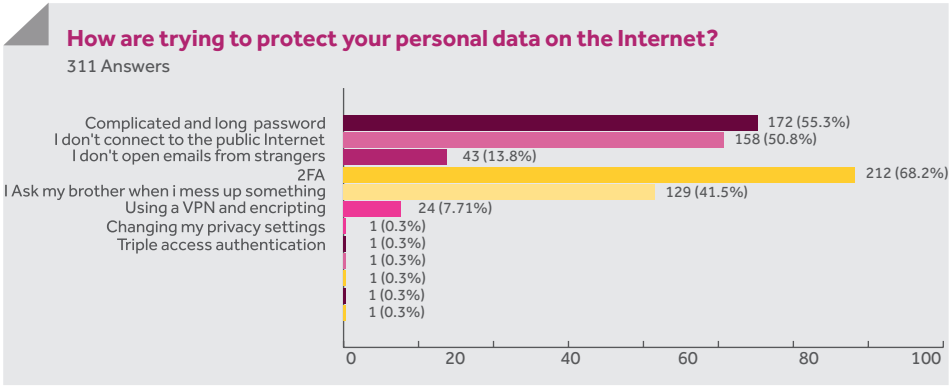

Figure 12. Percentage of usage of data protection on the Internet (N=311)

The last section of the questionnaire was an open-ended one - there was a possibility of additional comment and some most interesting ones are shown here:

- "People need some kind of workshop to use the Internet safely and share information, especially the older population who are probably not familiar with how to protect themselves."
- "People don't care about their personal information at all!"
- "I think it is necessary to change the options on the social networks and other Internet services (for example: webmail) that we use to ensure the protection of personal information."
- "I believe that the ways we protect our information on the Internet should be clearer and better explained."

The comments are talking about how respondents are interested in additional personal data protection workshops so they can more clearly know how to better protect themselves

when using the Internet. In addition, there is still a small proportion of commentators who think that Internet users are not interested in the security of personal information. Related to the research from Eurostat Internet (2019) where not many Croatian residents expressed desire to improve their digital skills by carrying out free online training or self-study (11% of adults living in Croatian cities, 6% of adults living in towns and suburbs and 4% of adults in rural areas), it can be indicative that it is difficult to motivate people to further educate themselves on these issues or that there is no such free online education available in Croatia. However, this will have to be researched further.

Continuing with the results of the survey, the statements which can be answered from 1 to 5 (1 – completely disagree, 5 – completely agree and 3 – can't tell) are particularly interesting while viewing them based on gender, age and completed education. Those statements are: "I am concerned about data security on the Internet", "I would love to learn how to better protect my information online", "I feel safe sharing my personal information on the Internet", "I worry that my information will be used to create a fake profile on social networks", "I believe that the government is spying on me over the Internet" and "I do not mind that my information is being collected to serve more relevant advertisements". The results can be seen in Table 1 (based on gender and age) and Table 2 (based on completed education).

In Table 1 the most noticeable differences in the answers between male and female respondents where on the statements "I would love to learn how to better protect my information online", where 72.77% of females answered that they agreed but only 58.47% of males answered that they agreed; and "I worry that my information will be used to create a fake profile on social networks", to which 56.78% of males answered that they disagreed but only 38.22% of females did the same.

Looking at the results based on age, it can be seen that in the first sentence in Table 1 not even one of the respondents who were more than 56 years old disagreed with the statement, but looking at the age group from 26 to 35 there are 27.71% who disagreed. The most noticeable difference in answers between age groups was for the statement "I feel safe sharing my personal information on the Internet", where only 40.54% of respondents in the age group from 36 to 45 disagreed but age group 46 to 55 had a 64.70% of disagreement with the statement. That is a 24.16% difference in answers from respondents that are only

10 years older/younger. Some other differences in results were for the statement "I do not mind that my information is being collected to serve more relevant advertisements", where 21.65% of respondents in the age group of 18-25 answered that they agree with it, but only 11.76% of respondents in the age group 46-55 feel the same.

Table 1. Results of the survey based on gender and age

Statement		Gender (%)		Age (%)					
		M	F	<18	18-25	26-35	36-45	46-55	>56
I am concerned about data security on the Internet	Agree (4+5)	54.24	51.31	60	58.60	38.55	56.76	41.17	57.15
	Disagree (1+2)	24.58	11.52	10	13.37	27.71	8.11	23.53	0
	Can't tell (3)	21.19	37.17	30	28.03	33.73	35.14	35.29	42.86
I would love to learn how to better protect my information online	Agree	58.47	72.77	50	70.70	56.63	72.98	76.47	71.43
	Disagree	22.04	9.42	0	14.01	20.48	8.11	11.76	0
	Can't tell	19.49	17.80	50	15.29	22.89	18.92	11.76	28.57
I feel safe sharing my personal information on the Internet	Agree	22.88	12.56	40	15.28	18.07	21.62	5.88	0
	Disagree	52.54	54.45	50	57.96	51.81	40.54	64.70	28.58
	Can't tell	24.58	32.98	10	26.75	30.12	37.84	29.41	71.43
I worry that my information will be used to create a fake profile on social networks	Agree	21.19	33.51	30	26.75	26.50	37.84	47.06	14.29
	Disagree	56.78	38.22	60	47.13	49.40	37.84	23.53	14.29
	Can't tell	22.03	28.27	10	26.11	24.10	24.32	29.41	71.43
I believe that the government is spying on me over the Internet	Agree	46.61	30.89	40	42.67	37.35	24.33	11.76	14.29
	Disagree	32.20	43.45	10	32.48	46.99	59.46	41.17	28.58
	Can't tell	21.19	25.65	50	24.84	15.66	16.22	47.06	57.14
I do not mind that my information is being collected to serve more relevant advertisements	Agree	19.49	20.94	30	21.65	19.28	21.62	11.76	14.29
	Disagree	60.17	58.64	40	62.42	54.21	59.46	70.58	42.86
	Can't tell	20.34	20.42	30	15.92	26.51	18.92	17.65	42.86

However, looking at Table 2, where the results of the survey are shown based on completed education, there is a difference in results for statements "I would love to learn how to better protect my information online", "I feel safe sharing my personal information on the Internet" and "I believe that the government is spying on me over the Internet".

With that said, the statement "I would love to learn how to better protect my information online" shows that the percentage of respondents who agree with the statement slowly decreases with the level of completed education. Only 54.17% of respondents with a master's degree agreed with that statement but 80% of respondents with only basic education thought the same, which is a 25.83% difference.

Looking at the statement "I feel safe sharing my personal information on the Internet", only 12.97% of respondents with secondary education agreed with it but looking at respondents with a college degree, 22.03% thought the same.

One of the most notable statements is "I believe that the government is spying on me over the Internet", where it is shown that more people with a higher completed education believe that the government is spying on them via the Internet. With that said, only 26.67% of respondents with basic education agree with that statement and 41.67% of respondents with a master's degree think the same. That is a 15% difference due to the level of completed education of the respondents who answered the survey.

There are also some statements that do not have a significant difference in percentage, like the statement "I am concerned about data security on the Internet", where 50% of respondents agreed, regardless of completed education. Another example of such a statement is "I do not mind that my information is being collected to serve more relevant advertisements" - around 50% of respondents disagreed with it.

Table 2. Results of the survey based on completed education

Statement		Completed education (%)					
		Basic	Secondary	College	University	Masters	PhD
I am concerned about data security on the Internet	Agree (4+5)	53.34	56.48	44.06	53.75	41.67	50
	Disagree 1+2)	26.67	18,.2	16.95	10	25	0
	Can't tell (3)	20	25.19	38.98	36.25	33.33	50
I would love to learn how to better protect my information online	Agree	80	67.94	69.49	67.5	54.17	50
	Disagree	6.67	15.27	13.55	13.75	12.50	50
	Can't tell	13.33	16.79	16.95	18.75	33.33	0
I feel safe sharing my personal information on the Internet	Agree	16.22	12.97	22.03	16.25	16.67	50
	Disagree	54.05	56.48	49.15	53.75	58.33	0
	Can't tell	29.73	30.53	28.81	30	25	50
I worry that my information will be used to create a fake profile on social networks	Agree	33.33	28.24	28.81	31.25	20.84	50
	Disagree	60	44.28	44.07	41.25	54.16	50
	Can't tell	6.67	27.48	27.12	27.50	25	0
I believe that the government is spying on me over the Internet	Agree	26.67	38.93	35.59	33.75	41.67	50
	Disagree	26.66	35.88	42.38	45	37.50	50
	Can't tell	46.67	25.19	22.03	21.25	20.83	0
I do not mind that my information is being collected to serve more relevant advertisements	Agree	33.33	16.79	23.73	22.50	20.84	0
	Disagree	53.34	65.65	55.93	53.75	50	100
	Can't tell	13.33	17.56	20.34	23.75	29.16	0

5. Conclusion

In this paper, the authors wanted to find out how much the average user in Croatia knows about Internet security, with special emphasis on social networks. A survey was conducted with this goal in mind and some insight into users' perception of their online privacy was obtained.

One of the main conclusions is that people still care about their data security and that they have found several ways to protect themselves. While much can be heard on the news about stealing data to create fake profiles and government spying on users through user-posted data on the Internet, citizens themselves are not so concerned about the issue. Citizens are more concerned about sending personal information over the Internet and are very interested in learning more about how to better protect their information on the Internet. In addition, most survey respondents agree that it is not right to collect their data for more relevant advertisements, although this is done. Overall, the respondents were quite well informed about the types of data protection on the Internet with the additional use of VPNs, 2FAs, not visiting unsafe sites, and the like. Only 7.7% (24 people) of them said that they did not do anything about it. Based on this, we can see that people in Croatia are quite well informed and want to inform themselves even more about the protection of their data on the Internet, hopefully through some free online training. Moreover, with the results based on gender, it can be seen that women in Croatia are more willing to learn how to better protect themselves on the Internet, but they also worry more about the possibility that their information might be used to create a fake account.

It can also be seen that respondents who are more than 56 years old worry more about their data security on the Internet than the younger respondents. Also, the younger respondents (less than 18, 18-25) believe more that the government is spying on them on the Internet (40%) than the older respondents.

Most respondents (50%), regardless of their completed education, are concerned about data security on the Internet, but as the level of their completed education increases, respondents lose the desire to learn how to better protect themselves. There is a decrease of 26% between the respondents with only basic education and those with master's degree who are willing to learn.

The main contributions of this paper are: a) a survey on the security of personal data on the Internet, b) processed data and data visualization, c) insight into what Internet users in Croatia know about Internet security and how they perceive their online privacy and d) insight into willingness of users to further inform themselves on data protection.

As for future research, there is room for broadening the survey – mainly regarding the sample of respondents. It must be noted that this survey was conducted on a small sample of respondents (311 people), where most of them were people in the age group from 18 to 25 that have finished only secondary education (which correlates to known statistics of a broader population using social networks from Eurostat Internet 2019). With a larger survey that has more participants within different age groups and educational levels, the results would be more representative. Index Mundi (2019) noted that the population of Croatia consists more of an older population and, as it has been mentioned before, since mostly younger people responded to the survey, the results may not be as accurate as they could be, but also considered should be the fact that younger people are more frequent Internet users in Croatia. It would certainly be interesting to examine and compare the results between the younger and older population in Croatia, and this should be one of the areas for a future research.

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